

REMARKS

The Office Action of March 8, 2005 has been received and its contents carefully considered.

The Office Action objects to claim 15 (see page 8 of the Office Action) but advises that it would be allowable if it is placed in independent form. The present Amendment does this, by amending claim 15 to include the subject matter of claims 10 and 13. The Amendment also cancels claims 10 and 13, and revises claims 11, 12, 14, and 16 to depend from claim 15.

It is noted that, when the subject matter of claims 10 and 13 was transferred to claim 15, the phrase "a certain conductive type" (claim 10) was omitted. Accordingly, it is respectfully submitted that the rejection for indefiniteness on page 3 of the Office Action has been overcome and that claim 15 is now in condition for allowance. Since claims 11, 12, 14, and 16 depend from claim 15 and recite additional limitations to further define the invention, they are patentable along with claim 15 and need not be further discussed.

The present Amendment also revises claim 1 with subject matter extracted from claim 3 (in somewhat modified form), along with the added limitation that the second and third doping steps have different projection ranges. This is supported (*inter alia*) by the paragraph at page 7 of the application, lines 12-20. The Amendment additionally cancels claim 3 and revises dependent claim 2 to conform to the revisions that have been made in claim 1.

Finally, the present Amendment cancels claim 4 and uses it (in somewhat modified form) as the basis of a new independent claim 17. Claim 17 also recites that the

second and third doping steps have different projection ranges. New dependent claims 18-23 correspond to dependent claims 2 and 5-9.

For the reasons discussed below, it is respectfully submitted that the inventions defined by independent claims 1 and 17 are patentable over the Mouli reference.

Independent claim 1 now recites “doping the entire active region a first time with boron.” Although Mouli mentions boron and BF_2 , he does not teach that boron should be used for initial doping of the entire active region. Instead, the reference just says that a p-substrate is used (see column 7, lines 29-33).

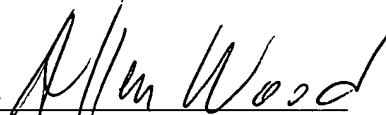
Claim 1 now also recites “doping peripheral parts of the active region at least a second time and a third time with boron or indium at different projection ranges.” This is neither disclosed nor suggested by the reference. The reference mentions “typical” energy levels in the 5-80 KeV range for both lightly doped and heavily doped regions (see the passage at column 7, line 56 to column 8, line 37), but it is respectfully submitted that the mere mention of a range of possible implantation energies would not have led an ordinarily skilled person to have used different projection ranges for second and third doping steps.

Turning now to new independent claim 17, this claim recites “doping the entire active region a first time with phosphorus.” As was noted above, Mouli just says that he uses a p-type substrate. Claim 17 also recites “doping peripheral parts of the active region at least a second time and a third time with phosphorus or antimony at different projection ranges.” It is again respectfully submitted that Mouli’s mention of a range of possible implantation energies would not have suggested, to an ordinarily skilled person, selecting energies that would provide different projection ranges.

The remaining claims depend from the independent claims discussed above and recite additional limitations to further define the invention, so they are patentable along with their independent claims and need not be further discussed.

For the foregoing reasons, it is respectfully submitted that this application is now in condition for allowance. Reconsideration of the application is therefore respectfully requested.

Respectfully submitted,

A handwritten signature in cursive script that reads "Allen Wood". The signature is written in dark ink and is positioned above a horizontal line.

Allen Wood

Registration No. 28,134

Customer No. 23995

(202) 326-0222

(202) 408-0924 (facsimile)

(202) 408-5297 (facsimile)

AW:rw